

IN THE CLAIMS

The following listing of the claims is provided in accordance with 37 C.F.R.

1.121:

1. (canceled).
2. (previously presented) A phosphor having a formula of $(D_{1-x}Eu_x)A_3B_4O_{12}$; wherein D is a combination of yttrium and gadolinium A is a combination of aluminum, scandium, and gallium; and x is in a range from about 0.001 to about 0.3.
3. (original) The phosphor according to claim 2, wherein x is in a range from about 0.01 to about 0.2.
- 4.-7. (canceled).
8. (currently amended) A phosphor blend comprising: (a) a phosphor having a formula of $(D_{1-x}Eu_x)A_3B_4O_{12}$; wherein D is ~~at least one metal selected from the group consisting of yttrium and elements of the lanthanide series other than europium~~ a combination of Y and Gd, and A is a combination of Al, Sc, and Ga; ~~A is at least a metal selected from the group consisting of aluminum, gallium, indium, and scandium~~; and x is in a range from about 0.001 to about 0.3; (b) a green light-emitting phosphor; and (c) a blue light-emitting phosphor.
9. (original) The phosphor blend according to claim 8, wherein x is in a range form about 0.01 to about 0.2.
- 10.-13. (canceled).

14. (original) The phosphor blend according to claim 8, wherein the green light-emitting phosphor is selected from the group consisting of $\text{LaPO}_4\text{:Ce}^{3+}, \text{Tb}^{3+}$; $\text{GdMgB}_5\text{O}_{10}\text{:Ce}^{3+}, \text{Tb}^{3+}$; $\text{CeMgAl}_{11}\text{O}_{19}\text{:Ce}^{3+}, \text{Tb}^{3+}$; $\text{Ca}_5(\text{PO}_4)_3(\text{Cl}, \text{F}, \text{OH})\text{:Sb}^{3+}, \text{Mn}^{2+}, \text{Eu}^{2+}$; $\text{Sr}_4\text{Al}_{14}\text{O}_{25}\text{:Eu}^{2+}$; and $\text{BaAl}_8\text{O}_{13}\text{:Eu}^{2+}$; and combinations thereof.

15. (original) The phosphor blend according to claim 8, wherein the blue light-emitting phosphor is selected from the group consisting of $(\text{Ba}, \text{Sr}, \text{Ca})\text{MgAl}_{10}\text{O}_{17}\text{:Eu}^{2+}$; $(\text{Ba}, \text{Sr}, \text{Ca})_5(\text{PO}_4)_3(\text{Cl}, \text{F}, \text{OH})\text{:Eu}^{2+}$; $(\text{Ba}, \text{Sr}, \text{Ca})\text{BPO}_5\text{:Eu}^{2+}$; and combinations thereof.

16. (currently amended) A method for making a phosphor, the method comprising:

(a) mixing oxygen-containing compounds of:

(1) at least one first metal selected from the group consisting of yttrium and elements of lanthanide series other than europium;

(2) at least one second metal selected from the group consisting of aluminum, gallium, indium, and scandium;

(3) boron; and

(4) europium to form a mixture; and

(b) heating the mixture in an oxygen-containing atmosphere at a temperature in a range from about 900°C to about 1400°C for a time sufficient to convert the mixture to a phosphor, wherein the phosphor comprises a material having a formula of $(\text{D}_{1-x}\text{Eu}_x)\text{A}_3\text{B}_4\text{O}_{12}$, where D is at least one metal selected from the group consisting of yttrium and elements of the lanthanide series other than europium; A is at least one metal selected from the group consisting of aluminum, gallium, indium, and scandium, and x is in a range from about 0.001 to about 0.3, and wherein the oxygen-containing compound of boron is H_3BO_3 , and an amount of H_3BO_3 in the mixture is in excess of stoichiometric amount.

17.-18. (canceled).

19. (currently amended) The method according to claim ~~[[18]]~~16, further comprising washing the phosphor after heating to remove excess boron compound.

20. (currently amended) A method of preparation of a phosphor, the method comprising:

(a) providing a first solution that comprises:

- (1) at least one compound of at least one first element selected from the group consisting of yttrium and elements of lanthanide series other than europium;
- (2) at least one compound of at least one second element selected from the group consisting of aluminum, gallium, indium and scandium;
- (3) at least one compound of boron; and
- (4) at least one compound of europium;

(b) adding one second solution to the first solution to produce a precipitate comprising compounds of the first element, the second element, boron, and europium; the second solution comprising a base selected from the group consisting of ammonium hydroxide; hydroxides of at least one element selected from the group consisting of yttrium, and elements of lanthanide series; organic esters of carboxylic acids; organic amines; and combinations thereof; and

(c) heating the precipitate in an oxygen-containing atmosphere at a temperature in a range from about 900°C to about 1400°C for a time sufficient to convert the precipitate to a phosphor, wherein the phosphor comprises a material having a formula of $(D_{1-x}Eu_x)A_3B_4O_{12}$, where D is at least one of Y and a rare earth element excluding europium, and A is at least one of Al, Ga, Sc, and In, and x is in a range from about 0.001 to about 0.3.

21. (currently amended) A light source comprising:
(a) a source of UV radiation that is located in a sealed housing; and
(b) a phosphor blend disposed within the sealed housing and adapted to be excited by the UV radiation and to emit visible light, wherein the phosphor blend comprises: a phosphor having a formula of $(D_{1-x}Eu_x)A_3B_4O_{12}$; wherein D is ~~at least one metal selected from the group consisting of yttrium and elements of the lanthanide series other than europium~~; A is ~~at least a metal selected from the group consisting of aluminum, gallium, indium, and scandium~~; a combination of Y and Gd, and A is a combination of Al, Sc, and Ga, and x is in a range from about 0.001 to about 0.3.

22. (canceled).

23. (currently amended) The light source according to claim ~~[[22]]~~21, wherein x is in a range from about 0.01 to about 0.2.

24.-27. (canceled).

28. (original) The light source according to claim 21, wherein the source of UV radiation is a mercury vapor discharge.

29. (original) The light source according to claim 21, further comprising at least a green light-emitting phosphor selected from the group consisting of $LaPO_4:Ce^{3+}, Tb^{3+}$; $GdMgB_5O_{10}:Ce^{3+}, Tb^{3+}$; $CeMgAl_{11}O_{19}:Ce^{3+}, Tb^{3+}$; $Ca_5(PO_4)_3(Cl, F, OH):Sb^{3+}, Mn^{2+}, Eu^{2+}$; $Sr_4Al_{14}O_{25}:Eu^{2+}$; and $BaAl_8O_{13}:Eu^{2+}$; and combinations thereof.

30. (original) The light source according to claim 21, further comprising at least a blue light-emitting phosphor selected from the group consisting of $(\text{Ba}, \text{Sr}, \text{Ca})\text{MgAl}_{10}\text{O}_{17}:\text{Eu}^{2+}$; $(\text{Ba}, \text{Sr}, \text{Ca})_5(\text{PO}_4)_3(\text{Cl}, \text{F}, \text{OH}):\text{Eu}^{2+}$; $(\text{Ba}, \text{Sr}, \text{Ca})\text{BPO}_5:\text{Eu}^{2+}$; and combinations thereof.

31. (canceled).